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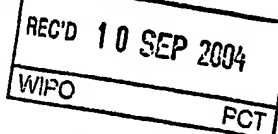
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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference 20946WO		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/05876	International filing date (day/month/year) 03.06.2003	Priority date (day/month/year) 04.06.2002	
International Patent Classification (IPC) or both national classification and IPC C12N15/57			
Applicant DSM IP ASSETS B.V. et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 16.12.2003		Date of completion of this report 08.09.2004	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Espen, J Telephone No. +49 89 2399-8410 	

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/EP 03/05876**

**I. Basis of the report**

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-30 as originally filed

**Claims, Numbers**

1-15 as originally filed

**Drawings, Sheets**

1/2-2/2 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-15
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-15
Industrial applicability (IA)	Yes: Claims	1-15
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1). The present International Application relates to a protein hydrolysate "rich" in tripeptides whereby the tripeptides are "rich" in proline at one end of the peptide (claim 1). The protein hydrolysate is obtained by the combined action of a (proline)endoprotease and a tripeptidase.

In order to understand what might be meant by "rich", the IPEA considered the table shown on page 25 of the description.

A casein hydrolysate having been treated in combination with a tripeptidylaminopeptidase (TPAP) and a proline-specific endoprotease (EndoPro) has a content of di- and tripeptides of 21 molar% of all peptides detected, and 38 molar% of all tripeptides detected have a carboxyterminal proline (i.e. less than 8 molar% of all peptides detected) (the Table presented on page 27 gives no indication what molar% of the tripeptides has a C-terminal-Pro).

Having regard to example 3, the content of tripeptides having a carboxyterminal proline residue in Nutramin is of about 4 molar% of all peptides detected.

2.1). The following document is considered of being pertinent:

D1 JP2039896 (PAJ/JPO abstract).

D1 describes a process of treating soybean protein with both a proline specific endopeptidase and a dipeptidyl carboxypeptidase (DPCP). The resulting protein hydrolysate has a low-molecular peptide composition having  $\leq 1000$  molecular weight.

2.2). The difference between D1 and the present application is the use of a dipeptidase instead of a tripeptidase.

No special or surprising effects could be shown which were due to the use of said tripeptidase.

Moreover, tripeptidase were known in the art, as mentioned in the description. Therefore, the skilled person would have used a tripeptidase without the use of his inventive skill.

In consequence, an inventive step has to be denied for the present set of claims.